

Claims

- 5 1. A method for registering and authenticating a wireless communication device (201a) with a wireless ad-hoc network, said method being characterized by the following steps:
- wirelessly transmitting (S1a) a registration request message from the requesting device (201a) to a node (201b)
 - 10 authorized to register (S3a) said device (201a) to the network,
 - authenticating (S2) said requesting device (201a) towards the user by playing an audio-visual signal,
 - 15 - authenticating said authorized node (210b) towards the user by playing an audio-visual signal,
 - sanctioning the registration by the user in case the device (201a) and the authorized node (201b) playing the audio-visual signal are the ones the user intended to use, and
 - 20 - wirelessly transmitting (S3a) a registration message in the positive case from said authorized node (201b) to said requesting device (201a).
2. A method according to claim 1,
- 25 characterized by the following step:
- in case the wireless communication device (201a) and/or the wireless node (201b) registers (S5a) the lack of an acceptance or rejection message after a preprogrammed time interval has expired, terminating (S5b) the authentication
- 30 and registration process.
3. A method according to anyone of the preceding claims, characterized in that

- said audio-visual signals by the wireless communication device (201a) and by the authorized wireless node (201b) have a common structure out of a large number of possible structures so the user can make his sanctioning decision dependent on whether both signals have the same structure, and
- the description of the audio-visual signal to be signaled by said device (201a) is wirelessly sent by said authorized node (201b) in an encrypted way, so only said requesting device (201a) can decrypt it.

4. A method according to anyone of the preceding claims, characterized by the step of identifying registered devices (201b+c) of a specific wireless multi-hop ad-hoc network by decrypting and recognizing a network-identifying signal out of a range of different possible signals that is specific for said network generated by a wireless node (201b) connected to said network.

5. A method according to claim 4, characterized in that said network-identifying signal is an audio signal.

6. A method according to claim 4, characterized in that said network-identifying signal is a visual signal.

7. A method according to claim 4, characterized in that said network-identifying signal is an audio-visual signal.

8. A method according to anyone of the preceding claims, characterized in that

the registration request message contains a list containing the device capabilities of the wireless communication device (201a) to be registered.

5 9. A wireless communication device to be registered (S3a) to a wireless multi-hop ad-hoc network, characterized by

- user interaction and control means (202a, 206a) for controlling the registration and authentication process,

10 - processing means (208a) for determining the nearest wireless node (201b) in the environment of the wireless communication device (201a) being authorized to register (S3a) said device (201a) to the network by evaluating wirelessly received response messages from said nodes
15 (201b+c),

- decryption means (210a) for decrypting information wirelessly received from, audio-visually signaled and encrypted by the authorized wireless node (201b) by means of a secret key which is known to both the wireless
20 communication device (201a) and the authorized wireless node (201b), and

- signaling means (204a) for audio-visually signaling (S2b) said information to authenticate the identity of the wireless communication device (201a).

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